

ABSTRACT

A practicable, compact local system is used to separate emulsified oil from water, enabling reuse or disposal to drain of most of the water. The treated water meets regulatory guidelines for safe disposal to drain. The system can separate highly emulsified oil/water mixes. It uses a ceramic cross-flow membrane filter with pore sizes in the range of 0.005 micron to 1.2 micron, operating at pressures in the range 25 to 150 psi (gauge). Removal of up to about 95% of the water can be achieved. High separation flux rates are achieved by computer controlled cleaning cycles, made practical by providing minimal permeate collection spaces downstream of the filter on the water discharge side. Two independently operable systems may share a modest cabinet.